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| 10/673,769 | 09/29/2003 | Tsuyoshi Itsukaichi | O11.2B-11338-US01 | 2473 |

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EXAMINER

AUSTIN, AARON

ART UNIT PAPER NUMBER

1775

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,769

Applicant(s)

ITSUKAICHI ET AL.

Examiner

Aaron S. Austin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the amended claim restricts the size of the molybdenum disulfide core. However, the claimed size range appears to be enabled for the particles comprising the thermal spray powder, including both the core and the coating thereon (see page 4, lines 1-24 and page 6, lines 34-35). Is the claim language intended to apply the restricted range to the combination of the core and coating as supported by the specification?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masanori (Japanese Publication No. 55044515) in view of Rao et al. (U.S. Patent No. 5,302,450).

Masanori teaches production of a lubricative sintered metal body. The metal body is produced by coating MoS₂ with copper. The copper is present in a percentage of 10 to 30%, thus the MoS₂ is present in a percentage of 70 to 90%. As Masanori teach use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide. The phrase "thermal spray powder" is considered intended use.

Masanori does not appear to teach the particle size of the plasma sprayable particles or the thermal spraying of the particles. The phrase "thermal spray powder" is considered intended use.

Rao et al. '450 teaches coated molybdenum particles are suitable for thermal spraying. Further, Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches coated molybdenum particles are suitable for thermal spraying and that grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the powder of Masanori for thermal spraying and as having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

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Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 1-2, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (U.S. Patent No. 5,302,450).

Rao et al. '450 teach a thermally sprayable powder having grains comprising a core of solid lubricant particles comprised of at least graphite and MoS₂ and a soft metal shell encapsulating the core (column 2, lines 43-47). The soft metal shell is selected from the group consisting of Ni, Co, Cu, Zn, Sn, Mg, and Fe (column 2, lines 55-57). The lubricant core includes MoS₂ in the amount of 30-90% by weight. The content of the metal shell in the thermal powder is 70% to 95% by weight (column 4, line

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58). As Rao et al. '450 teach use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide.

Further, Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce a thermal spray powder having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a

rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 3-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (U.S. Patent No. 5,302,450) in view of Fiala et al. (U.S. Patent No. 6,887,530).

Rao et al. '450 teach a thermally sprayable powder as described above.

While Rao et al. '450 do teach the lubricant is in the range of 5% to 30%, they do not teach the content of molybdenum disulfide itself in the powder is 30% to 90% or 40% to 80% by weight. Further, while they do teach the content of the metal shell as being 70% to 95% by weight of the powder, they do not teach the content of the metal in the powder is between 10% and 70% or 20% to 60%.

Fiala et al. teach a thermal spray composition comprising a mixture of at least 5 wt % total, preferably 19 to 60 wt % and more preferably 25 to 45 wt % of a solid lubricant and a ceramic (column 2, lines 31-33). The ratio of solid lubricant to ceramic is 1:7 to 20:1 (column 2, lines 41-42) and the solid lubricant may be molybdenum disulphide particles (column 2, lines 37-38). Further, either the ceramic particles or the lubricant particles may be coated by a matrix-forming metal alloy (column 2, lines 50-52), comprising the balance of the composition (column 2, line 66), such as Ni, Co, Cu,

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Fe, Al, and alloys thereof (column 2, lines 43-44). Therefore, as it is clearly taught by Fiala et al. that a thermal spray composition comprising molybdenum disulphide particles coated with a metal coating in amounts overlapping the Applicant's claimed ranges provides the advantages of a smooth surface, low permeability, and long-term oxidation resistance (column 2, lines 20-22), it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the powder of Rao et al. '450 to include the weight ranges of Fiala et al.

Still further, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (U.S. Patent No. 3,659,861) in view of Rao et al. (U.S. Patent No. 5,302,450).

Rao et al. '861 teach plasma sprayable particles having a core of lubricating material surrounded by a shell (column 1, lines 22-23 and claim 1). The lubricating material may be molybdenum disulfide and the shell material may preferably be nickel, copper or cobalt (column 1, lines 32-37). As Rao et al. '861 teach use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that

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is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide.

Rao et al. '861 does not teach the particle size of the plasma sprayable particles.

Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the thermal spray powder of Rao '861 having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claims 3-4 and 6-7, Rao et al. '861 and '450 do not teach the content of molybdenum disulfide itself in the powder is 30% to 90% or 40% to 80% by weight. Further, they do not teach the content of the metal in the powder is 10% to 70% or 20% to 60%. However, "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, Rao et al. '861 do not specify the workable ranges of content by weight, but they do describe the general conditions of the claim, namely the content of the claimed powder. It would not be inventive to discover the workable ranges by routine

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experimentation of the invention taught by Rao et al. '861. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiala et al. (U.S. Patent No. 6,887,530) in view of Rao et al. (U.S. Patent No. 5,302,450).

Fiala et al. teach a thermal spray composition comprising a mixture of at least 5 wt % total, preferably 19 to 60 wt % and more preferably 25 to 45 wt % of a solid lubricant and a ceramic (column 2, lines 31-33). The ratio of solid lubricant to ceramic is

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1:7 to 20:1 (column 2, lines 41-42) and the solid lubricant may be molybdenum disulphide particles (column 2, lines 37-38). Further, either the ceramic particles or the lubricant particles may be coated by a matrix-forming metal alloy (column 2, lines 50-52), comprising the balance of the composition (column 2, line 66), such as Ni, Co, Cu, Fe, Al, and alloys thereof (column 2, lines 43-44).

Fiala et al. do not teach the particle size of the thermal spray particles.

Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the thermal spray powder of Fiala et al. having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the

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prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunda (G.B. Patent No. 1,450,376) in view of Rao et al. (U.S. Patent No. 5,302,450).

Kunda teaches thermal spray copper-coated powders for use as abradable or hard surface coating material (page 1, lines 68-81). As Kunda teaches use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide.

Kunda does not teach the particle size of the thermal spray particles.

Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce

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stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the thermal spray powder of Kunda having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claims 3-4 and 6-7, Kunda does not teach the content of molybdenum disulfide itself in the powder is 30% to 90% or 40% to 80% by weight. Further, the content of the metal in the powder is not taught with a value of 10% to 70% or 20% to 60% by weight. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, Kunda do not specify the workable ranges of content by weight, but they do describe the general conditions of the claim, namely the content of the claimed powder. It would not be inventive to discover the workable ranges by routine experimentation of the invention taught by Kunda. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the

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prior art, the claim is unpatentable even though the prior product was made by a different process.” In *re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masayuki (JP56044762) in view of Rao et al. (U.S. Patent No. 5,302,450).

Masayuki teaches a metallizing material comprising molybdenum disulfide coated with metallic powder, such as copper (see the abstract). As Masayuki teaches use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide.

Masayuki does not appear to teach the particle size or the thermal spraying of the particles. The phrase “thermal spray powder” is considered intended use.

Rao et al. '450 teaches coated molybdenum particles are suitable for thermal spraying. Further, Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches

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coated molybdenum particles are suitable for thermal spraying and that grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the powder of Masayuki for thermal spraying and as having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claims 3-4 and 6-7, Masayuki does not teach the content of molybdenum disulfide itself in the powder is 30% to 90% or 40% to 80% by weight. Further, the content of the metal in the powder is not taught with a value of 10% to 70% or 20% to 60% by weight. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, Masayuki does not specify the workable ranges of content by weight, but does describe the general conditions of the claim, namely the content of the claimed powder. It would not be inventive to discover the workable ranges by routine experimentation of the invention taught by Masayuki. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 11, the coating is deposited by eutectic crystal formation and, even further, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the

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process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In *re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoyoshi (JP1301847) in view of Rao et al. (U.S. Patent No. 5,302,450).

Tomoyoshi teaches a metallizing material comprising molybdenum disulfide coated with metallic powder, such as copper (see the abstract). As Tomoyoshi teaches use of like materials in a like manner, it would be expected that the coating layer is composed of a metal that is softened or melted at a temperature lower than the heat decomposition temperature of the molybdenum disulfide.

Tomoyoshi does not teach the particle size of the thermal spray particles.

Rao et al. '450 teaches flowable powder useful for such plasma spraying preferably has an average particle size in the range of 20-75 microns, but more preferably 30-55 microns to be freely flowable with reduced stratification for feeding a

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plasma gun (column 8, lines 52-60). Therefore, as Rao et al. '450 teaches grain sizes less than 30 microns will not flow freely and grain sizes above 55 microns produce stratification, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to produce the powder of Tomoyoshi having a percentage of particles having a particle size of 5 microns or smaller of no more than 5%, and a percentage of particles having a particle size of 75 microns or larger of no more than 5%.

Regarding claims 3-4 and 6-7, Tomoyoshi does not teach the content of molybdenum disulfide itself in the powder is 30% to 90% or 40% to 80% by weight. Further, the content of the metal in the powder is not taught with a value of 10% to 70% or 20% to 60% by weight. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, Tomoyoshi does not specify the workable ranges of content by weight, but does describe the general conditions of the claim, namely the content of the claimed powder. It would not be inventive to discover the workable ranges by routine experimentation of the invention taught by Tomoyoshi. Thus the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

Regarding claim 11, the claim is a product by process claim. The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

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The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Response to Arguments

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Further, Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on September 14, 2006 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS**

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ACTION IS MADE FINAL. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

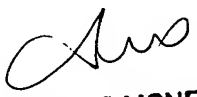
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron S. Austin whose telephone number is (571) 272-8935. The examiner can normally be reached on Monday-Friday: 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASA


JENNIFER MCNEIL
SUPERVISORY PATENT EXAMINER

10/29/06